CHAPTER 5: IMPLEMENTING STRATEGIES AND ACTIONS

IN THIS CHAPTER:

This chapter outlines the strategies and actions that we will use to improve pedestrian conditions within the Priority Investment Network. Each strategy is intended to help achieve one or more of the Pedestrian Master Plan's 6 objectives described in Chapter 2.

These strategies and actions are based, in part, on a review of current national and international best practices in the areas of design and engineering, education, enforcement, evaluation, and encouragement. The strategies are organized into five groups:

1. **Along-the-Roadway** strategies address how we will improve pedestrian conditions and maintain a high-quality pedestrian realm for people traveling along the roadway.
2. **Crossing-the-Roadway** strategies outline measures we will take to create more comfortable conditions for people crossing the roadway.
3. **Network-wide** strategies are measures we will take to reduce the quantity and severity of pedestrian collisions across the city, and to increase safety for all people. These strategies and actions will be implemented in association with Seattle's Vision Zero program.
4. **Education, Encouragement and Enforcement** strategies focus on how we will promote more pedestrian movement in Seattle and enforce safe roadway practices by all users to help improve pedestrian safety.
5. **Pedestrian Realm Quality and Comfort** strategies outline how we will create, enhance and maintain a vibrant, comfortable pedestrian realm.

Table 5-1 outlines the full set of implementing strategies and actions associated with each of these five elements.

TABLE 5-1: IMPLEMENTING STRATEGIES AND ACTIONS

1. ALONG-THE-ROADWAY STRATEGIES AND ACTIONS

Strategy 1.1: Build out the PMP Priority Investment Network (PIN)

Action 1.1.1: Provide sidewalks along arterials

Action 1.1.2: Prioritize new sidewalks on the Frequent Transit Network

Action 1.1.3: Implement Neighborhood Greenways as part of the PMP Priority Investment Network

Action 1.1.4: Provide low-cost improvements on non-arterial streets, including Neighborhood Greenways

Action 1.1.5: Explore options to establish a fund to build and maintain stairways

Strategy 1.2: Facilitate the provision of new sidewalks by the private sector

Action 1.2.1: Evaluate more stringent land use code standards for new sidewalks

Action 1.2.2: Explore opportunities to incentivize pedestrian realm improvements above and beyond existing land use code requirements

Action 1.2.3: Increase the number of street concept plans to make it easier for developers to go above and beyond code requirements to enhance the pedestrian realm

Action 1.2.4: Explore options for developers to provide alternative mitigation, in lieu of requiring sidewalk construction

Action 1.2.5: Explore mechanisms to accept voluntary contributions for both new sidewalk projects and enhancements to existing projects

Action 1.2.6: Consider working with large sponsors to develop a private partnership program and leverage public dollars

Strategy 1.3: Consolidate driveways and curb cuts

Action 1.3.1: Work with the Seattle Department of Construction and Inspection to create stronger code requirements and/or incentives to minimize curb cuts and driveway widths on all street types (and particularly along the PMP Priority Investment Network)

Action 1.3.2: Utilize the development review process to review access strategies for new developments early in the design process to minimize access impacts

Strategy 1.4: Repair sidewalks

Action 1.4.1: Explore options to establish a proactive sidewalk inspection program to inventory sidewalk deficiencies that pose potential risks to pedestrians

Action 1.4.2: Make it easier for residents to report sidewalk repair needs, including evaluating the feasibility of updating the City's "Find it, Fix it" service request mobile app to include a service request category for sidewalk repair needs

Action 1.4.3: Educate residents about and increase enforcement of private sidewalk repair obligations

Action 1.4.4: Make it easier and more predictable for private property owners to complete required sidewalk repairs

Strategy 1.5: Create and maintain a walkable zone on all sidewalks

Action 1.5.1: Update the Right-of-Way Improvements Manual (ROWIM) to specify and enforce minimum pedestrian clear zone widths for all street types

Action 1.5.2: Create a program directed at neighborhood business districts to communicate the importance of keeping the walkable zone clear of objects/impediments, including propped doors, A-frame signs, outdoor seating and displays, etc.

Action 1.5.3: Consider locations for bike share stations; prioritize non-sidewalk locations when possible

TABLE 5-1: IMPLEMENTING STRATEGIES AND ACTIONS (CONTINUED)

Strategy 1.6: Improve accessibility in Seattle
Action 1.6.1: Implement short-term improvements to ensure that critical routes are clear of vegetation
Action 1.6.2: Identify opportunities to restripe painted crosswalks to better align with curb ramps
Action 1.6.3: Develop an updated ADA transition plan
2. CROSSING-THE-ROADWAY STRATEGIES AND ACTIONS
Strategy 2.1: Improve pedestrian visibility at crossings
Action 2.1.1: Provide curb bulbs (including low-cost installations) in the PMP Priority Investment Network
Action 2.1.2: Provide high-visibility treatments at crossings in the PMP Priority Investment Network including flashing crossing beacons, signage, etc.
Action 2.1.3: Use high-reflectivity crosswalk markings on all projects
Action 2.1.4: Provide lighting at marked pedestrian crossings
Action 2.1.5: Utilize Complete Streets project reviews to evaluate capital projects for opportunities to maximize pedestrian visibility using the tactics described
Strategy 2.2: Shorten pedestrian crossing distances
Action 2.2.1: Provide curb bulbs, pedestrian crossing islands, and/or pedestrian refuges, when possible
Action 2.2.2: Use lane reductions, as appropriate, as part of the engineering toolkit when making pedestrian or other safety improvements
Strategy 2.3: Optimize crossing times for pedestrians as signals
Action 2.3.1: Review current SDOT pedestrian crossing time standards and update as needed to reflect current best practices, factoring in pedestrian wait times
Action 2.3.2: Provide sufficient countdown time at pedestrian crossing signals
Action 2.3.3: Modify signal timing to favor pedestrians in neighborhood business districts
Strategy 2.4: Reduce turning movement conflicts at intersections
Action 2.4.1: Consider leading pedestrian intervals
Action 2.4.2: Implement pedestrian-only phasing where appropriate, including scramble signals, factoring in pedestrian wait times
Action 2.4.3: Review signal phasing for opportunities to eliminate shared phases that create conflicts between cars and pedestrians
Action 2.4.4: Eliminate permitted "turn on red," where appropriate
Action 2.4.5: Provide diverter islands at unsignalized arterial/non-arterial intersections
Action 2.4.6: Develop internal policies and guidelines for implementing the approaches in 2.4
Strategy 2.5: Increase opportunities for controlled crossings on arterials
Action 2.5.1: Review and establish maximum controlled crossing spacing standards / guidelines for multi-lane arterials
Action 2.5.2: Locate transit stops in proximity to controlled crossings, particularly on multi-lane arterials

TABLE 5-1: IMPLEMENTING STRATEGIES AND ACTIONS (CONTINUED)

3. NETWORK-WIDE STRATEGIES AND ACTIONS
Strategy 3.1: Manage vehicle speeds
Action 3.1.1: Establish 20 mph speed limits on non-arterial streets as part of Vision Zero implementation
Action 3.1.2: Establish default speeds on arterial streets to 25 mph as part of Vision Zero implementation
Action 3.1.3: Consider posted speed reductions on arterial streets, as appropriate
Strategy 3.2: Provide neighborhood and arterial traffic calming measures
Action 3.2.1: Continue to use lane reductions, as appropriate, as part of the engineering toolkit when making pedestrian or other safety improvements
Action 3.2.2: Review capital projects for opportunities to implement lane reductions as part of the Complete Streets review
Action 3.2.3: Increase funding for SDOT's Neighborhood Traffic Calming Program
Action 3.2.4: Streamline the process for installing neighborhood traffic calming improvements
4. EDUCATION, ENCOURAGEMENT, AND ENFORCEMENT STRATEGIES AND ACTIONS
Strategy 4.1: Enforce vehicular speed limits and safe driving behaviors
Action 4.1.1: Continue to work with the City's Office of Intergovernmental Relations (OIR) on outreach to State legislators to expand the City's ability to deploy automated speed enforcement and other photo enforcement technologies
Action 4.1.2: Continue to collaborate with the Seattle Police Department (SPD) on data-driven traffic enforcement
Action 4.1.3: Pair speed limit reductions with communication and public outreach
Action 4.1.4: Utilize the network of dynamic messaging signs to raise awareness of enhanced traffic enforcement
Strategy 4.2: Expand multimodal traveler safety education and encouragement programs
Action 4.2.1: Explore options to expand driver education courses for traffic citations within the City of Seattle
Action 4.2.2: Work with partners to incorporate more active transportation educational content into the *Washington Driver Guide*
Action 4.2.3: Expand safety education programs to educate people about safe pedestrian practices
Action 4.2.4: Leverage the Safe Routes to School program to provide bicycle and pedestrian safety training and encouragement to all public elementary schools
Action 4.2.5: Create public outreach tools to communicate the top contributing factors to collisions in Seattle
Action 4.2.6: Help employers develop walking programs for employees
Action 4.2.7: Expand other programs that encourage and promote the benefits of walking

TABLE 5-1: IMPLEMENTING STRATEGIES AND ACTIONS (CONTINUED)

5. PEDESTRIAN REALM QUALITY AND COMFORT STRATEGIES AND ACTIONS
Strategy 5.1: Provide pedestrian buffers
Action 5.1.1: Update the Right-of-Way Improvements Manual to specify furnishing zone requirements for various street types and associated design requirements
Action 5.1.2: Create a suite of options for buffer treatments that could be used when there is insufficient ROW/ sidewalk width to provide landscape buffers, particularly on streets where transit and/or vehicular uses are accommodated within the curb lane
Strategy 5.2: Develop a coordinated wayfinding system
Action 5.2.1: Collaborate with external partners to develop a coordinated wayfinding plan to facilitate pedestrian travel and modal integration
Strategy 5.3: Create inviting pedestrian spaces
Action 5.3.1: Provide pedestrian amenities, including benches and resting opportunities, in the right-of-way
Action 5.3.2: Consider opportunities to create pedestrian-only streets either temporarily, at key times, or on a permanent basis
Strategy 5.4: Promote and maintain green infrastructure in the right-of-way
Action 5.4.1: Update the Right-of-Way Improvements Manual to update minimum standards for landscape zones within the sidewalk and landscape maintenance requirements
Action 5.4.2: Explore options for establishing a capital budget for SDOT Urban Forestry to provide new street trees and landscaping within the right-of-way
Action 5.4.3: Increase funding for landscape and street tree management and maintenance
Action 5.4.4: Continue to collaborate with Seattle Public Utilities to maximize opportunities to provide green stormwater infrastructure within the right-of-way
Strategy 5.5: Provide pedestrian-scale lighting
Action 5.5.1: Update the Pedestrian Lighting Citywide Plan
Action 5.5.2: Identify funding source(s) to provide pedestrian lighting as part of SDOT capital projects
Action 5.5.3: Update the Right-of-Way Improvements Manual to specify where pedestrian-scale lighting is desired to help ensure that private frontage improvements include pedestrian-scale lighting

1. ALONG-THE-ROADWAY STRATEGIES AND ACTIONS

STRATEGY 1.1 BUILD OUT THE PMP PRIORITY INVESTMENT NETWORK (PIN)

The PIN is a connected network of arterial and non-arterial streets that connect people to key pedestrian destinations (frequent transit stops and schools). Given the role these streets play in linking people to important destinations, we will direct resources for improving pedestrian infrastructure to streets within this PIN.

Chapter 4 provides a preliminary assessment of pedestrian infrastructure conditions within this network. The along-the-roadway analysis assesses whether sidewalks exist within the PIN, while the crossing-the-roadway analysis identifies opportunities to evaluate arterial intersections for crossing improvements.

The key strategies for implementing the PMP will be to provide walking paths along all streets in the PIN and to evaluate identified arterial intersections for potential crossing improvements.

●	**OBJECTIVE 1:** Complete and maintain the pedestrian system identified in the PMP
●	**OBJECTIVE 2:** Improve walkability and accessibility on all streets
●	**OBJECTIVE 3:** Increase pedestrian safety
●	**OBJECTIVE 4:** Plan, design, and build Complete Streets to move people and goods
	OBJECTIVE 5: Create vibrant public spaces that encourage pedestrian use
	OBJECTIVE 6: Raise awareness of the important role of pedestrian movement for transportation, recreation, and in promoting health and preventing disease

Considerations

- This strategy is based in part on community feedback. As noted in the PMP Public Survey Report (Appendix 2), residents have asked us to prioritize providing sidewalks and crossing improvements along and across busy streets and providing pedestrian improvements on non-arterial streets connecting people to schools and transit.
- A PMP Implementation Plan will be developed and updated regularly to identify particular street segments within the PIN for near-term improvements. The implementation plan will use the Safety and Equity analyses provided in Chapter 4 to help identify near-term priorities, and it will seek to maximize efficiencies by identifying program and project leveraging opportunities.
- Not all street segments identified as missing sidewalks may be feasible or desirable locations for new sidewalks. Project feasibility will be determined as part of the implementation plan.

Actions associated with this strategy

1.1.1 Provide sidewalks along arterials

1.1.2 Prioritize new sidewalks on the Frequent Transit Network

1.1.3 Implement Neighborhood Greenways as part of the PMP Priority Investment Network

1.1.4 Provide low-cost improvements on non-arterial streets, including Neighborhood Greenways

1.1.5 Explore options to establish a fund to build and maintain stairways

Icon indicates further detail on the action is provided within sidebar.

ACTION 1.1.1
PROVIDE SIDEWALKS ALONG ARTERIALS

Public feedback received via the PMP Public Survey emphasized that busy arterial streets without sidewalks are one of the biggest barriers to pedestrian movement. Based on this feedback, we will prioritize the construction of new sidewalks where they are missing on busy arterial streets. Arterial corridors within the Frequent Transit Network and other arterials that connect pedestrians to schools and transit stops are included within the Priority Investment Network.

Principal and minor arterials in particular tend to have higher speed limits and traffic volumes, making the provision of grade-separated sidewalks along these streets desirable. As such, new sidewalks along arterials will typically be traditional concrete, curb and gutter sidewalks with a landscaped buffer to provide physical separation between pedestrians on the sidewalk and vehicles in the roadway, as called for by the Right-of-Way Improvements Manual.

Providing sidewalks where they are currently missing along arterials streets will be a priority within the PMP Implementation Plan.

ACTION 1.1.3
IMPLEMENT NEIGHBORHOOD GREENWAYS AS PART OF THE PMP PRIORITY INVESTMENT NETWORK

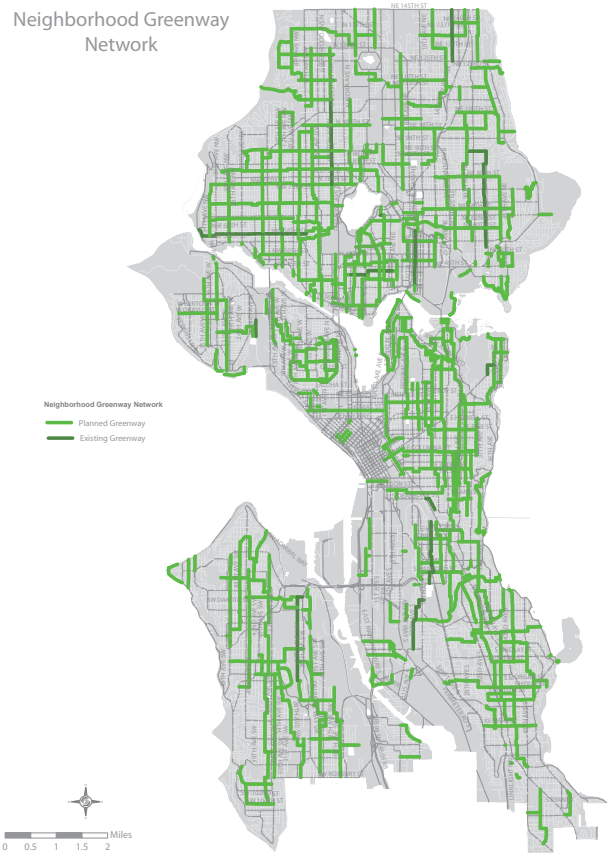
Neighborhood Greenways are a network of low-speed, low-volume streets with gentle grades designed to give priority to pedestrians and people biking. They are intended to provide safe arterial crossings and low-stress connections to key neighborhood destinations.

Seattle's Neighborhood Greenway network was originally established in the 2014 Bicycle Master Plan (BMP) as a key component of the city's bicycle network. However, because the types of improvements that Neighborhood Greenways typically provide can also effectively serve pedestrians, the Neighborhood Greenway program should be leveraged to address bicycle priorities identified in the BMP, as well as pedestrian priorities identified in the updated PMP.

In many instances, non-arterial streets within the pedestrian Priority Investment Network overlap with planned Neighborhood Greenway routes. (It should be noted that the exact route of a Neighborhood Greenway is determined as projects are developed, and does not always align with the routes illustrated in the Bicycle Master Plan).

As such, the Neighborhood Greenways program provides an opportunity to leverage funding for bicycle and pedestrian improvements. As Neighborhood Greenways are planned and built, their precise routing should be reviewed and updated to ensure they help address needs within the Priority Investment Network.

Because Neighborhood Greenways are located on non-arterial streets, low-cost improvements may be deployed as part of the Greenway project to help address pedestrian needs (see Action 1.1.4).



The planned Neighborhood Greenway system was developed as part of the 2014 Bicycle Master Plan (BMP). In many instances, non-arterial streets within the PIN overlap with planned Neighborhood Greenway routes. Moving forward, the Neighborhood Greenways program should be leveraged to meet the priorities identified in both the BMP and the PMP.

ACTION 1.1.4
PROVIDE LOW-COST IMPROVEMENTS ON NON-ARTERIAL STREETS, INCLUDING NEIGHBORHOOD GREENWAYS

In order to maximize resources and provide pedestrian improvements to more people as quickly as possible, we will provide innovative, lower-cost improvements on non-arterial streets lacking sidewalks within the Priority Investment Network. Low-cost walking improvements are an alternative to traditional concrete, curb and gutter sidewalks. Because they can be installed for as little as one-half the cost of a traditional sidewalk, these lower-cost techniques will allow us to provide significantly more improvements to more people. These lower-cost improvements are intended for residential streets to help connect people to important neighborhood destinations such as schools, parks, and transit stops. Traditional concrete sidewalks will still be provided on arterial streets.

The type of low-cost improvement appropriate for a given street will depend upon the context of the street, including the right-of-way available, drainage needs, impacts to parking, and the location and number of driveways. Low-cost improvements may include any of the following treatments:

- Stamped and/or stained asphalt sidewalks
- Delineated, at-grade paths
- At-grade paths separated by landscaping
- Shared space with calmed traffic
- Coordinated infrastructure delivered in partnership with drainage improvements provided by Seattle Public Utilities

Stamped and stained asphalt sidewalk with curb (raised walkway) along NE 105th Street.

Curb-separated path at the same level as cars at N 97th Street and Fremont Avenue N.

At-grade path behind green stormwater infrastructure without curb in the City of Shoreline.

Traditional concrete sidewalk with curbs on one side of the street only, with rain gardens that could be implemented in coordination with Seattle Public Utilities. 2nd Avenue NE pictured above.

STRATEGY 1.2
FACILITATE THE PROVISION OF NEW SIDEWALKS BY THE PRIVATE SECTOR

As new private development occurs, these projects should construct new and repair older sidewalks, curb ramps and pedestrian amenities, bringing them in line with the current Right-of-Way Improvements Manual (ROWIM) standards. Installing and improving pedestrian facilities in tandem with new development incrementally upgrades Seattle's pedestrian realm as the city grows and pedestrian demand increases.

●	**OBJECTIVE 1:** Complete and maintain the pedestrian system identified in the PMP
●	**OBJECTIVE 2:** Improve walkability and accessibility on all streets
●	**OBJECTIVE 3:** Increase pedestrian safety
●	**OBJECTIVE 4:** Plan, design, and build Complete Streets to move people and goods
●	**OBJECTIVE 5:** Create vibrant public spaces that encourage pedestrian use
	OBJECTIVE 6: Raise awareness of the important role of pedestrian movement for transportation, recreation, and in promoting health and preventing disease

Considerations

- Because private developments typically only provide pedestrian realm improvements along the property's frontage, sidewalk improvements are incremental, and some developer-driven sidewalk segments may remain disconnected from the overall sidewalk network
- Codes and regulations governing sidewalk improvements for new development within the right-of-way are currently located in the ROWIM, Seattle Municipal Code (SMC) sections 15.32, 15.70, 21.16, 23.48, 23.53, and Pedestrian "P" Zones Ordinance 124770

Actions associated with this strategy

1.2.1 Evaluate more stringent land use code standards for new sidewalks

1.2.2 Explore opportunities to incentivize pedestrian realm improvements above and beyond existing land use code requirements

1.2.3 Increase the number of street concept plans to make it easier for developers to go above and beyond code requirements to enhance the pedestrian realm

1.2.4 Explore options for developers to provide alternative mitigation, in lieu of requiring sidewalk construction

As new development occurs, new sidewalks and curb ramps continuously upgrade the city's pedestrian experience.

1.2.5 Explore mechanisms to accept voluntary contributions for both new sidewalk projects and enhancements to existing projects

1.2.6 Consider working with large sponsors to develop a private partnership program and leverage public dollars

ACTION 1.2.3
INCREASE THE NUMBER OF STREET CONCEPT PLANS TO MAKE IT EASIER FOR DEVELOPERS TO GO BEYOND CODE REQUIREMENTS

Street concept plans provide an opportunity for community groups, property owners, and/or the public sector to proactively develop a design concept for a street or series of streets. Street concept plans help articulate the community's design vision for the street. They often relate to and help implement broader planning and design objectives that the neighborhood or City may have developed. Street concept plans are adopted jointly by SDOT and the Office of Planning and Community Development and are appended to the Right-of-Way Improvements Manual (ROWIM).

While the design guidance provided in adopted street concept plans is not mandatory, they do have broad community support. As such, these plans have successfully guided the enhancement of the public pedestrian realm by private developers and other public agencies beyond the baseline requirements of the ROWIM. We will continue to develop and implement street concept plans in the future to communicate desired pedestrian realm improvements that may be above and beyond basic requirements.

Terry Avenue was constructed following an adopted street concept plan.

STRATEGY 1.3
CONSOLIDATE DRIVEWAYS AND CURB CUTS

Driveways and curb cuts create areas of conflict between pedestrians on the sidewalk and moving vehicles accessing private parcels. They can also be difficult to navigate for people with disabilities and/or mobility challenges. Consolidating, minimizing, and/or eliminating driveways and curb cuts creates a safer and more comfortable pedestrian environment by reducing potential conflicts between pedestrians and turning vehicles. This strategy can also provide more on-street parking opportunities and space in the pedestrian realm for landscaping and amenities.

Considerations

- Minimizing driveways and curb cuts increases pedestrian comfort, maintains a continuous pedestrian realm, and can minimize traffic delay by reducing interference between turning and through traffic
- In areas without alleys, curb cuts for access to parcels are difficult to avoid
- SDOT can work with Seattle Department of Construction and Inspection (SDCI) to discuss access strategies for new developments early in the development review process to minimize access impacts
- The City could encourage—through incentives and regulations—consolidated access points

Actions associated with this strategy

1.3.1 Work with SDCI to explore stronger code requirements and/or incentives to minimize curb cuts and driveway widths on all street types (and particularly key pedestrian and transit streets)

1.3.2 Utilize the development review process to review access strategies for new developments early in the design process to minimize access impacts

	OBJECTIVE 1: Complete and maintain the pedestrian system identified in the PMP
●	**OBJECTIVE 2:** Improve walkability and accessibility on all streets
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	OBJECTIVE 6: Raise awareness of the important role of pedestrian movement for transportation, recreation, and in promoting health and preventing disease

Minimizing the impact of driveways helps to maintain a continuous pedestrian realm and concentrate conflict points to one location along a block face.

ACTION 1.3.1
WORK WITH SEATTLE DEPARTMENT OF CONSTRUCTION AND INSPECTION TO CREATE STRONGER CODE REQUIREMENTS AND/OR INCENTIVES TO MINIMIZE CURB CUTS AND DRIVEWAY WIDTHS ON ALL STREET TYPES (AND PARTICULARLY KEY PEDESTRIAN AND TRANSIT STREETS)

Overly wide driveways and curb cuts have a deleterious effect on the pedestrian realm, creating conflict points where pedestrians and vehicles must negotiate the sidewalk space. SDOT, SDCI and other City departments should examine opportunities to strengthen both the land use and transportation sections of the Seattle Municipal Code to minimize curb cuts and driveways on key pedestrian and transit streets.

Consolidating driveways to one location reduces the number of conflict points at which vehicles cross the pedestrian realm.

STRATEGY 1.4
REPAIR SIDEWALKS

Cracked and uplifted sidewalks can make pedestrian paths difficult to navigate, particularly for users with mobility impairments. While the City strives to keep public sidewalks in a reasonably safe condition, responsibility for permanent repair and replacement can lie with the City or with private property owners, depending upon the cause of the damage.

In order to systematically inventory sidewalk conditions, we will evaluate opportunities to adopt city-wide sidewalk inspection procedures. A proactive sidewalk inspection program could help identify and prioritize sidewalk repair and replacement needs in advance of resident complaints.

Considerations

- The majority of damage done to sidewalks is caused by tree roots
- While street trees play a vital role in creating a sustainable, high-quality public realm, it is not uncommon for conflicts to arise between trees and sidewalks, particularly in locations where both were installed some time ago
- To provide guidance on installation, repair, and maintenance of sidewalks and street trees, SDOT developed the Trees and Sidewalks Operations Plan in 2015, which outlines design and repair solutions where street trees are negatively impacting sidewalk conditions
- Section 15.72 of the Seattle Municipal Code notes that property owners are responsible for maintaining and repairing sidewalks adjacent to their property
- When sidewalk damage is the result of a publicly owned street tree, SDOT is responsible for the sidewalk repair

●	**OBJECTIVE 1:** Complete and maintain the pedestrian system identified in the PMP
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Tree roots can damage sidewalks and make travel difficult for pedestrians.

Actions associated with this strategy

1.4.1 Explore options to establish a proactive sidewalk inspection program to inventory sidewalk deficiencies that pose potential risks to pedestrians

1.4.2 Make it easier for residents to report sidewalk repair needs, including evaluating the feasibility of updating the City's "Find it, Fix it" service request mobile app to include a service request category for sidewalk repair needs

1.4.3 Educate residents about and increase enforcement of private sidewalk repair obligations

1.4.4 Make it easier and more predictable for private property owners to complete required sidewalk repairs

STRATEGY 1.5
CREATE AND MAINTAIN A WALKABLE ZONE ON ALL SIDEWALKS

Seattle's ROWIM states that the sidewalk shall be clear of all vertical obstructions for a width of at least 6 feet and a height of at least 8 feet. While amenities like landscaping, signage, café seating, benches and art add visual interest to the public realm, these elements should be located outside of the required pedestrian clear zone.

Maintaining the walkable zone includes utilities, snow/debris removal, crack and damage repair, and vegetation management/tree limbing. Maintaining a walkable zone is important to creating a connected, accessible pedestrian network.

●	**OBJECTIVE 1:** Complete and maintain the pedestrian system identified in the PMP
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This sidewalk along 5th Avenue offers an example of a well-maintained pedestrian clear zone. Signs, bike racks and plantings are located within the furnishing zone, and the pedestrian clear zone is unobstructed.

Considerations

- The Right-of-Way Improvements Manual establishes minimum widths for all zones of the sidewalk
- The pedestrian clear zone/walkable zone is the area of the sidewalk corridor that is specifically reserved for pedestrian travel
- The ROWIM notes that street furniture, plantings, and other fixed items should not protrude into travel routes
- Utility poles or hydrants that impede the walkable zone can be costly to relocate
- Maintaining a walkable zone may require increased enforcement
- Currently, privately-funded signage, planters, cafés, and other encroachments must obtain an annual Public Space Management Street Use Permit from SDOT

Actions associated with this strategy

1.5.1 Update the ROWIM to specify and enforce minimum pedestrian clear zone widths for all street types

1.5.2 Create a program directed at neighborhood business districts to communicate the importance of keeping the walkable zone clear of objects/ impediments, including propped doors, A-frame signs, outdoor seating and displays, etc.

1.5.3 Consider locations for bike share stations; prioritize non-sidewalk locations when possible

STRATEGY 1.6
IMPROVE ACCESSIBILITY IN SEATTLE

Seattle strives to be the most accessible city in the nation. The along-the-roadway and crossing-the-roadway improvement opportunities identified in Chapter 4 are intended to improve mobility for all pedestrians, including people who rely on wheelchairs or other mobility devices to get around, as well as people with visual and/or hearing impairments.

Many of the implementing strategies and actions outlined throughout this chapter are intended to help improve mobility conditions for all people who use our city's sidewalks and crossings. However, the following actions are specifically targeted at making pedestrian facilities more accessible to those with mobility, vision, and/or hearing impairments.

Considerations

- Accessible design guidelines for new sidewalks and crossing improvements are addressed in the City's Right-of-Way Improvements Manual, including horizontal and vertical clear zone requirements, curb ramp design guidelines, and accessible pedestrian signals.
- An updated ADA transition plan will identify locations where curb ramp and other accessibility improvements will be provided throughout the city.
- While a transition plan considers many of the same factors that the PMP includes in its prioritization, a transition plan also evaluates additional access needs for individuals with disabilities, and describes the methods and timeline for making facilities accessible.

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The PMP is intended to improve mobility conditions for all who use Seattle's sidewalks and crossings, including those who rely upon wheelchairs and mobility devices, and those with visual and/or hearing impairments.

Actions associated with this strategy

1.6.1 Implement short-term improvements to ensure that critical routes are clear of vegetation

1.6.2 Identify opportunities to re-stripe painted crosswalks to better align with curb ramps

1.6.3 Update the ADA transition plan

2. CROSSING-THE-ROADWAY STRATEGIES AND ACTIONS

STRATEGY 2.1 IMPROVE PEDESTRIAN VISIBILITY AT CROSSINGS

A variety of engineering treatments can be used to improve visibility of pedestrians at intersections by eliminating visual obstructions and improving lines of sight. These include:

- **Curb bulbs:** Curb bulbs extend the curb line into the roadway at corner or mid-block crossings, bringing pedestrians into the line of sight of drivers and decreasing crossing distances. They also help prevent cars from parking too close to a crossing. Curb bulbs may be traditional concrete extensions of the sidewalk or temporary low-cost paint treatments.
- **"Daylighting" intersections:** Daylighting refers to removing visual obstructions at intersection approaches to maximize a driver's field of vision. This can include enforcing parking restrictions at intersection approaches.
- **Correcting skewed intersections:** Squaring up skewed intersections to right angles increases visibility, decreases pedestrian crossing distances, and can help prevent vehicles from turning at high rates of speed at obtuse angles. Intersections can be squared up through curb reconstruction, or paint and delineator posts can provide a temporary, low-cost treatment.
- **Crossing Beacons:** Rectangular Rapid Flashing Beacons (RRFBs) are traffic control devices placed on both sides of a crosswalk with pedestrian warning signs and pedestrian-actuated flashing LED lights that alert drivers to the presence of someone crossing the street. They are particularly effective at alerting drivers to a pedestrian entering the crosswalk at unsignalized intersections, curves, or mid-block crossings, and they dramatically increase driver yielding rates over crosswalks alone or overhead flashing beacons.
- **Lighting:** Well-lit pedestrian crossings increase the visibility of pedestrians crossing the roadway, which is particularly important during Seattle's long winter months
- **Crosswalk striping:** Installing and maintaining crosswalk striping helps clearly define where pedestrians are expected to cross the roadway. In addition, using high-reflectivity crosswalk markings can improve visibility of crossing locations to people driving.
- **Signage and Stop Bars:** Signage along the right-of-way and painted stop bars prior to intersections help reinforce safe roadway use

●	**OBJECTIVE 1:** Complete and maintain the pedestrian system identified in the PMP
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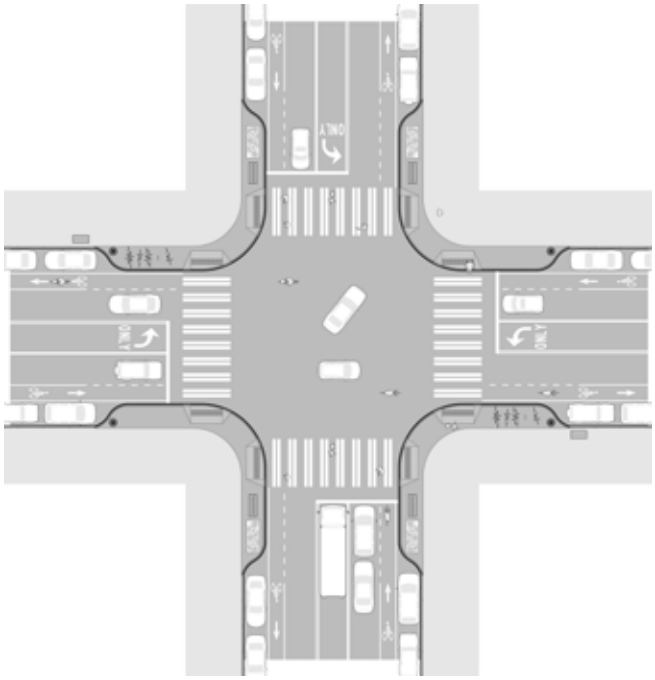
Considerations

- Locations for new crosswalks and Rectangular Rapid Flashing Beacons must meet thresholds based on traffic volumes, vehicle speeds, and crossing demand
- Conflicting right-of-way needs may not always allow for curb extensions
- Turning movement needs of large vehicles (such as trucks and buses) must be considered when retrofitting intersections
- Realigning curbs may reduce on-street parking capacity and can be costly



Curb bulbs can be particularly effective at maximizing visibility of people using wheelchairs, walkers, and strollers as they prepare to cross the street.

Actions associated with this strategy

2.1.1 Provide curb bulbs (including low-cost installations) in the PMP Priority Investment Network

2.1.2 Provide high-visibility treatments at crossings in the PMP Priority Investment Network, including flashing crossing beacons, signage, etc.

2.1.3 Use high-reflectivity crosswalk markings on all projects

2.1.4 Provide lighting at marked pedestrian crossings

2.1.5 Utilize Complete Streets project reviews to evaluate capital projects for opportunities to maximize pedestrian visibility using the tactics described

ACTION 2.1.2 PROVIDE HIGH-VISIBILITY TREATMENTS AT CROSSINGS IN THE PMP PRIORITY INVESTMENT NETWORK, INCLUDING RECTANGULAR RAPID FLASHING BEACONS

The crossing-the-roadway analysis in Chapter 4 identifies arterial intersections within the Priority Investment Network where widely spaced opportunities between controlled crossing locations may make it difficult to comfortably cross the street. These intersections will be evaluated for opportunities to provide new controlled crossings. New traffic controls that could potentially be deployed in these locations may include full traffic signals, pedestrian-activated traffic signals ("half signals"), or high-visibility crossing beacons.

Rectangular Rapid Flash Beacons (RRFBs) are traffic control devices placed on both sides of a crosswalk with pedestrian warning signs and pedestrian-actuated flashing LED lights that alert drivers to the presence of someone crossing the street. They are used in the absence of a full traffic signal. These high-visibility crossing treatments increase driver yielding rates for people trying to cross the street.

RRFB's are less expensive to install than traffic signals and can be an option when an intersection does not meet minimum thresholds for a new signal. To be eligible for a new RRFB, crossing locations must still meet guidelines based on traffic volumes, vehicle speeds, crossing distance, and pedestrian demand. RRFBs can be provided in conjunction with other intersection treatments such as curb bulbs and/or a median refuge island.

Crossing beacons, like this Rectangular Rapid Flashing Beacon (RRFB), have been shown to increase driver awareness of people crossing the street.

STRATEGY 2.2
SHORTEN PEDESTRIAN CROSSING DISTANCES

Shortening crossing distances at intersections reduces the amount of time pedestrians are exposed to vehicular traffic when crossing the street. Crossing distances can be shortened through treatments such as medians or pedestrian refuge islands, curb bulbs, and lane reductions. Shorter crossing distances are especially beneficial for those with mobility challenges and can provide a resting place for people unable to quickly cross the street.

As pedestrian treatments are implemented, care must be taken to balance the needs of different modes and the contextual issues at crossings in order to maintain pedestrian safety and roadway function.

Considerations

- Competing demands on the available right-of-way may preclude pedestrian islands or curb bulbs in some locations
- Curb bulbs can help prevent cars from parking too close to intersections or crossings
- Curb bulbs may be traditional concrete extensions of the sidewalk, or temporary low-cost paint treatments
- Pedestrian median islands can preclude left-turn lanes
- Curb bulbs can provide space for stormwater planters in locations where natural drainage is a priority
- Curb bulbs can preclude using the curb lane for mobility uses, including transit and bike lanes

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- When a protected bike lane is located along the curb and on-street parking is provided on the far side of the bike lane, there may be an opportunity to provide a pedestrian refuge at intersections on the far side of the protected bike lane
- The turning-movement needs of large vehicles (buses and trucks) must be considered when retrofitting intersections

Actions associated with this strategy

2.2.1 Provide curb bulbs, pedestrian crossing islands and/or pedestrian refuges, when possible

2.2.2 Use lane reductions, as appropriate, as part of the engineering toolkit when making pedestrian or other safety improvements

ACTION 2.2.1
PROVIDE CURB BULBS, PEDESTRIAN CROSSING ISLANDS AND/OR PEDESTRIAN REFUGES WHEN POSSIBLE

A variety of engineering treatments can be used to increase the visibility of pedestrians and shorten crossing distances at intersections. These tools can be used alone, or in conjunction with each other, and include:

- **Curb bulbs:** Curb bulbs extend the curb line into the roadway at a corner or a mid-block crossing, bringing pedestrians into the line of sight of drivers and decreasing crossing distance. Curb bulbs may be traditional concrete extensions of the sidewalk, or temporary low-cost paint treatments. Curb bulbs can be installed at most locations with a legal crosswalk, on streets with all day on-street parking, and at locations where they do not extend into travel lanes or bike lanes.

- **Crossing islands/refuges:** Pedestrian crossing islands (also called pedestrian refuges) are raised areas in the middle of the street at intersections or mid-block crossings that protect pedestrians from vehicles while they wait for an opportunity to cross the other half of the street. Crossing islands reduce the amount of time people are exposed to traffic and allow them to negotiate crossings in phases.

Curb bulbs in Belltown help narrow crossing distances for pedestrians crossing busy downtown arterials.

Painted curb bulbs in Maple Leaf, with safety pylons, help make pedestrians more visible and reduce crossing distances to Maple Leaf Park.

Curb bulbs and pedestrian crossing islands create a safer midblock crossing.

ACTION 2.2.2
USE LANE REDUCTIONS, AS APPROPRIATE, AS PART OF THE ENGINEERING TOOLKIT WHEN MAKING PEDESTRIAN AND OTHER SAFETY IMPROVEMENTS

Lane reductions (or "rechannelizations") make busy streets safer for pedestrians by reducing the number of traffic lanes a person must cross, eliminating the multiple threats associated with crossing streets with more than one lane in each direction.

Lane reductions have also been shown to slow people driving, which makes the street safer for everyone. Depending on the needs of the street, general purpose traffic, parking or turn lanes may be re-purposed for other uses such as wider sidewalks, street trees, bike lanes, or more efficient transit.

Careful analysis is required to begin evaluation of lane reduction options. This may include traffic counts, field surveys, traffic modeling, and neighborhood outreach. Streets that are good candidates to be configured with one lane in each direction and a center turn lane typically have fewer than 25,000 vehicles per day, a large number of driveways or driveways with frequent use, and a history of rear end collisions or collisions between people driving and pedestrians moving across or along the street.

NE 130th Street before lane reduction

NE 130th Street after lane reduction

STRATEGY 2.3
OPTIMIZE CROSSING TIMES FOR PEDESTRIANS AT SIGNALS

Signals should be programmed to allow sufficient time for pedestrians to cross the street, including people with disabilities, seniors, and children. Installing pedestrian countdown signals helps pedestrians decide whether there is enough time to cross the street safely by displaying a countdown of the number of seconds remaining before the signal changes. Pedestrian countdown signals cut out guesswork in crossing busy intersections and minimize the number of pedestrians still in crosswalks during the "do not walk" phase.

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Considerations

- Optimizing pedestrian crossing times can help ensure that people of all ages and abilities have sufficient time to cross the street
- Increasing pedestrian crossing times at signals can cause some vehicle travel time delay
- The Manual for Uniform Traffic Control Devices (MUTCD) stipulates that where pedestrians cross slower than 3.5 feet per second, or where people in wheelchairs routinely use the crosswalk, a crossing speed of less than 3.5 feet per second should be considered in determining the pedestrian clearance time
- SDOT reviews crossing times at intersections upon request. Where surrounding land uses include facilities frequented by slower-moving pedestrians (including senior or special needs facilities, elementary schools, and/or preschools), we will use a lower crossing speed of 3 feet per second to determine the pedestrian clearance time

Optimizing crossing times and providing countdown displays can help ensure pedestrians have sufficient time to cross the street.

Actions associated with this strategy

2.3.1 Review current SDOT pedestrian crossing time standards and update as needed to reflect current best practices, factoring in pedestrian wait times

2.3.2 Provide sufficient countdown time at pedestrian crossing signals

2.3.3 Modify signal timing to favor pedestrians in neighborhood business districts

STRATEGY 2.4
REDUCE TURNING-MOVEMENT CONFLICTS AT INTERSECTIONS BETWEEN PEDESTRIANS AND VEHICLES

Intersections are areas where pedestrians and vehicles have the potential for the most conflict, including vehicles turning right across the path of pedestrians crossing the roadway (right hooks). Minimizing turning-movement conflicts can remove much of this potential conflict and facilitate more predictable behavior for both vehicles and pedestrians at intersections.

Reducing turning-movement conflicts at intersections can be done through a variety of treatments, including separating vehicle and pedestrian signal phases, restricting turns on red lights, creating dedicated turning signal phases or delayed turning that allows pedestrians and through vehicles to move first, and/or establishing right-in/right-out channelization. The appropriateness of any of these treatments is based on site-specific considerations including local circulation impacts.

Considerations

- Predictable turning movements reduce conflict and increase safety by clearly defining which users have the right-of-way
- System changes are relatively cost effective when signals are already in place
- Reconfiguring turning movements has potential for vehicle travel time delay
- Reconfiguring turning movements may require broader roadway reconfiguration and behavior change
- Longer wait time for a pedestrian crossing signal may result in non-compliant crossings
- Consideration must be given to how signal timing works with all users and modes, including travel-time impacts to transit
- Eliminating turning-movement conflicts can also benefit people who are biking

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Actions associated with this strategy

2.4.1 Consider leading pedestrian intervals

2.4.2 Implement pedestrian-only phasing, including scramble signals, factoring in pedestrian wait times

2.4.3 Review signal phasing for opportunities to eliminate shared phases that create conflicts between pedestrians and vehicles

2.4.4 Eliminate permitted "turn on red," where appropriate

2.4.5 Provide diverter islands at unsignalized arterial/non-arterial intersections

2.4.6 Develop internal policies and guidelines for implementing the approaches in 2.4

ACTION 2.4.1
CONSIDER LEADING PEDESTRIAN INTERVALS

Leading pedestrian intervals (LPIs) provide a pedestrian walk signal three or more seconds before vehicles receive a green light in the same direction of travel. This gives pedestrians a head start to begin their crossing, making them more visible to turning drivers. LPIs are particularly effective at mitigating vehicle encroachment into pedestrian crossing space at intersections with heavy pedestrian volumes and vehicle turning movements.

Seattle's rainy weather, short winter days and steep streets can make pedestrians hard to see. Leading Pedestrian Intervals can help make them more visible to drivers.

ACTION 2.4.3
REVIEW TRAFFIC SIGNAL PHASING FOR OPPORTUNITIES TO ELIMINATE SHARED PHASES THAT CREATE CONFLICTS BETWEEN PEDESTRIANS AND VEHICLES

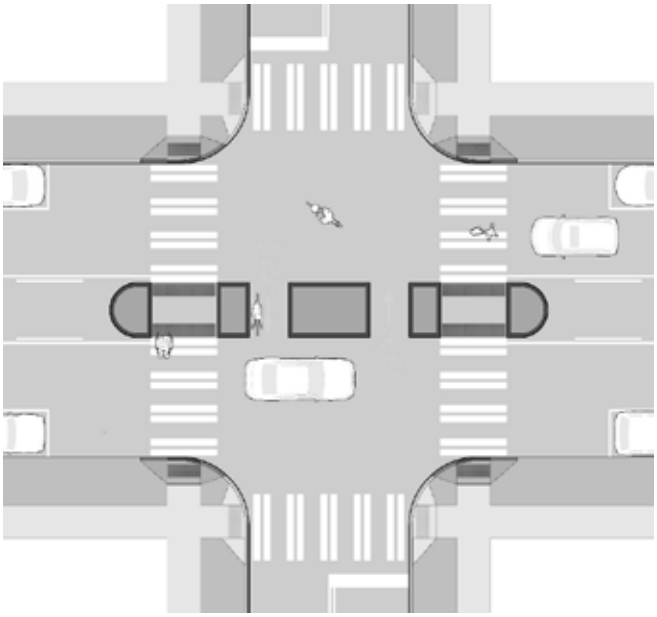
Shared traffic signal phasing, where crossing pedestrians and turning vehicles use the same green light/walk signal, increases the potential of conflict. Minimizing turning-movement conflicts between pedestrians and vehicles at signalized intersections facilitates more predictable behavior for all roadway users, creating a safer street environment. Shared signal phasing could be reconfigured by separating vehicle and pedestrian signal phases, restricting turns on red lights, or by creating dedicated turning signal phases or delayed turning that allow pedestrians and through vehicles to move first.

Eliminating shared signal phases between turning vehicles and pedestrians crossing the roadway may include prohibiting vehicles from making right turns on red.

ACTION 2.4.5
PROVIDE DIVERTER ISLANDS AT UNSIGNALIZED ARTERIAL/NON-ARTERIAL INTERSECTIONS

Diverter islands manage a street's vehicular volume by reducing through-traffic on non-arterial streets. They reduce the number of potential vehicle turning movements at an intersection, making crossings easier to navigate for pedestrians crossing the street.

Where a non-arterial intersects an arterial street, a diverter island (a raised concrete median) prevents vehicles on the arterial from turning onto the non-arterial street. However, people walking and biking can pass through an opening in the diverter island to continue on their path of travel on the non-arterial. On non-arterial streets designated for pedestrian and bicycle travel, this keeps traffic volumes low, enhancing the comfort and safety of these non-motorized users.



Diverter islands reduce the number of potential vehicle turning movements, making crossings easier to navigate for pedestrians.

STRATEGY 2.5
INCREASE OPPORTUNITIES FOR CONTROLLED CROSSINGS ON ARTERIALS

Crossing busy arterial streets can be a major barrier, especially for children, seniors, and people with disabilities. In particular, widely spaced distances between traffic control devices can force pedestrians to go out of their way to safely cross a street and can result in non-compliant behavior such as pedestrians crossing arterials at unpredictable locations. An uncontrolled intersection crossing can be particularly problematic on routes that connect to key destinations, such as transit stops.

Traffic control devices that stop vehicles on arterials to provide an opportunity for pedestrians to cross the roadway include traditional traffic signals, pedestrian-actuated "half signals," high visibility crossing beacons such as rectangular rapid flashing beacons (RRFBs), and stop signs. The "crossing the roadway" analysis in Chapter 4 identifies opportunities to evaluate intersections for new controlled crossings.

Considerations

- For an intersection to be eligible for a new traffic signal, pedestrian-actuated "half" signal, or stop sign, the intersection must meet minimum thresholds (warrants) based on pedestrian demand and traffic volumes, as set forth in the Manual on Uniform Traffic Control Devices (MUTCD)
- High visibility crossing beacons, such as RRFBs, can be an effective tool at intersections that do not meet signal warrants. To be eligible for a new RRFB, intersections must meet thresholds based on the number and speed of people driving on the street, as well as the number of traffic lanes a person has to cross.
- Controlled crossings of arterials can be provided in conjunction with other treatments such as curb bulbs and crossing islands

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The Central District Neighborhood Greenway crossing at E Cherry Street provides a crossing beacon to alert vehicles to people crossing the roadway.

Actions associated with this strategy

2.5.1 Review and establish maximum controlled crossing spacing standards/guidelines for multi-arterials

2.5.2 Locate transit stops in proximity to controlled crossings, particularly on multi-lane arterials

3. NETWORK-WIDE STRATEGIES AND ACTIONS

STRATEGY 3.1 MANAGE VEHICLE SPEEDS

Vehicle speed is highly correlated with traffic crashes. Furthermore, as vehicle speeds increase, the likelihood that a crash will result in a serious or fatal injury to a pedestrian or bicyclist jumps dramatically. Vehicles traveling at lower speeds not only directly increase pedestrian safety, but also increase pedestrian level of comfort and the perceived attractiveness of the public realm.

To reduce the risk of serious and fatal pedestrian collisions, SDOT will reduce default and posted vehicle speeds on arterial and non-arterial streets. These efforts will be rolled out as part of SDOT's ongoing Vision Zero program.

Considerations

- Speed reductions on arterial and non-arterial streets pro-actively reduce the number and severity of serious and fatal pedestrian collisions, create conditions for a more vibrant streetscape, and may help decrease traffic noise in residential neighborhoods
- Washington State law, specifically RCW 46.61.415, limits how much cities can reduce speeds on their streets
- Some arterials may need additional design reconfigurations before speed limit reduction is appropriate
- Speed reduction on arterials needs to be considered on a case-by-case basis and may not be appropriate in some instances

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Actions associated with this strategy

3.1.1 Establish 20 mph speed limits on non-arterial streets, as part of Vision Zero implementation

3.1.2 Establish default speeds on arterial streets to 25 mph, as part of Vision Zero implementation

3.1.3 Consider posted speed reductions on arterial streets, as appropriate

STRATEGY 3.2
PROVIDE NEIGHBORHOOD AND ARTERIAL TRAFFIC CALMING MEASURES

Slowing vehicle speeds dramatically reduces the risk of serious and fatal pedestrian collisions, and increases safety for all roadway users. A broad range of design treatments can be used to visually narrow the roadway and slow vehicle traffic. Narrow streets, curved streets, trees, and parked cars can send visual cues to a driver to travel at slower speeds.

On neighborhood (non-arterial) streets, design treatments such as traffic circles, chicanes, and speed humps may be used to slow people driving on residential streets. Arterial traffic calming measures can include speed cushions, radar speed signs, and roadway rechannelizations.

The appropriate type of traffic calming approach depends on roadway geometry, sight distance, and traffic characteristics such as speed and volume.

Considerations

- To determine if traffic calming elements are appropriate, SDOT uses data to understand the number and speed of people driving on a street
- Arterial traffic calming can be challenging because of the multiple purposes served by these streets

Actions associated with this strategy

3.2.1 Continue to use lane reductions (or "rechannelizations"), as appropriate, as part of the engineering toolkit when making pedestrian or other safety improvements

3.2.2 Review capital projects for opportunities to implement lane reductions as part of the Complete Streets review

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Over the last 30 years, SDOT's Neighborhood Traffic Calming Program has installed over 1,000 traffic circles on city streets to help reduce collisions in residential neighborhoods.

3.2.3 Increase funding for SDOT's Neighborhood Traffic Calming Program

3.2.4 Streamline the process for installing neighborhood traffic calming improvements

4. EDUCATION, ENCOURAGEMENT, AND ENFORCEMENT STRATEGIES AND ACTIONS

STRATEGY 4.1
ENFORCE VEHICULAR SPEED LIMITS AND SAFE DRIVING BEHAVIORS

Enforcing speed limits and fostering safe driving behaviors can help reduce the risk of serious and fatal pedestrian collisions. Enforcement efforts can target risky behaviors such as driver impairment and distraction, as well as speeding. Enforcement activities can take a variety of forms, including school zone photo enforcement, high visibility enforcement at high collision locations, corridor safety patrols on major arterial streets, pedestrian safety emphasis patrols such as "blocking the box," and loading and restricted areas enforcement.

We will continue to collaborate with other City departments and partners to enforce traffic safety laws. This work will stem from SDOT's Vision Zero program, and will complement traveler education campaigns and programs. Use of a variety of enforcement tools can help achieve sustained behavior change among all roadway users in Seattle.

Considerations

- SDOT and Seattle Police Department (SPD) routinely collaborate on effective traffic enforcement, using traffic data to target enforcement efforts to locations where risky traffic behavior and crashes are occurring
- "Re-enforcement" patrols are SPD and SDOT's commitment to work together to reward and reinforce good behavior on our streets
- Expanding automated photo enforcement could reduce the need for increased police resources

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Actions associated with this strategy

4.1.1 Continue to work with the City's Office of Intergovernmental Relations (OIR) on outreach to State legislators to expand the City's ability to deploy automated speed enforcement and other photo enforcement technologies

4.1.2 Continue to collaborate with the Seattle Police Department (SPD) on data-driven traffic enforcement

4.1.3 Pair speed limit reductions with education and public outreach

4.1.4 Utilize the network of dynamic messaging signs to raise awareness of enhanced traffic enforcement

ACTION 4.1.1
CONTINUE TO WORK WITH THE CITY'S OFFICE OF INTERGOVERNMENTAL RELATIONS (OIR) TO EXPAND THE CITY'S ABILITY TO DEPLOY AUTOMATED SPEED ENFORCEMENT

Automated photo enforcement can help reduce vehicle speeds, reduce dangerous behaviors, and prevent crashes. It can take many forms, including speed cameras, red light cameras, and mobile speed vans. Use of photo enforcement technologies combats aggressive and dangerous driving habits that endanger vulnerable roadway users, and it helps create a safer, more comfortable pedestrian environment.

Seattle has experienced a reduction in speeding violations in school zones where speed cameras have been installed. However, broader city-wide deployment of automated photo enforcement is currently limited by Washington State law, specifically RCW 46.63.170.

SDOT will continue to work with OIR on outreach to State legislators to expand the City's ability to deploy automated speed enforcement and other photo enforcement technologies to increase safety on our streets and protect vulnerable roadway users.

STRATEGY 4.2
EXPAND MULTIMODAL TRAVELER SAFETY EDUCATION AND ENCOURAGEMENT PROGRAMS

Dense, multimodal urban environments present unique challenges for travelers. Public education efforts can help communicate safe roadway behaviors for all roadway users, including people who drive, people who bike, people riding transit, and pedestrians.

Multimodal traveler education can raise awareness of the needs and challenges of all roadway users and can help clarify expected traffic safety behaviors. Increased awareness of traffic regulations can increase safety for all users.

Considerations

- Education can create a common understanding amongst all roadway users of safe, predictable behaviors
- Effectiveness of traveler education programs are based on user receptivity and understanding; enforcement should accompany education to affect behavior change
- Translation and culturally relevant communication will be important in serving historically underrepresented communities with traveler education programs

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Multimodal education and encouragement programs help educate all users about the laws and expectations of all roadway users. In this photo, City staff and volunteers help drivers learn about new bicycle signals and protected bike lanes on Second Avenue.

Actions associated with this strategy

4.2.1 Explore options to expand driver education courses for traffic citations within the City of Seattle

4.2.2 Work with partners to incorporate more active transportation education content into the Washington Driver Guide

4.2.3 Expand safety education programs to educate people about safe pedestrian practices

4.2.4 Leverage the Safe Routes to School program to provide bicycle and pedestrian safety training and encouragement to all public elementary schools

4.2.5 Create public outreach tools to communicate the top contributing factors to collisions in Seattle

4.2.6 Help employers develop walking programs for employees

4.2.7 Expand other programs that encourage and promote the benefits of walking

5. PEDESTRIAN REALM QUALITY AND COMFORT STRATEGIES AND ACTIONS

STRATEGY 5.1
PROVIDE PEDESTRIAN BUFFERS

Buffers provide a physical separation between pedestrians on the sidewalk and vehicles in the roadway, increasing pedestrian safety and comfort. Pedestrian buffers may include parked cars, bicycle facilities, sidewalk cafes, parklets, planting strips, street trees, green stormwater infrastructure facilities, street furniture, bollards, or railings. Buffers are especially important on streets with fast moving vehicles or high traffic volumes, and where transit or vehicular travel lanes are located adjacent to the curb.

Considerations

- This furnishing zone of the sidewalk (located between the curb and the pedestrian clear zone) buffers pedestrians from the adjacent roadway and is the appropriate location for street furniture, art and landscaping/ street trees, pedestrian lighting, and other streetscape elements
- Buffers present opportunities to expand the urban forest and implement bioretention within the right-of-way
- Buffers provide a transition zone for driveway aprons, eliminating the need to "drop" sidewalks at driveways
- Planted buffers will increase vegetation maintenance demands
- There may not always be sufficient right-of-way available to provide pedestrian buffers
- There is a growing trend to use curb space for mobility uses including converting on-street parking to general-purpose travel lanes or transit lanes during peak travel times. This impacts pedestrian safety and comfort on arterials lacking buffers.

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Landscaping within the sidewalk furnishing zone helps buffer people on sidewalks from fast moving traffic.

Actions associated with this strategy

5.1.1 Update the ROWIM to specify furnishing zone requirements for various street types and associated design requirements

5.1.2 Create a suite of options for buffer treatments that could be used when there is insufficient ROW/ sidewalk width to provide landscape buffers, particularly on streets where transit and/or vehicular uses are accommodated within the curb lane

STRATEGY 5.2
DEVELOP A COORDINATED WAYFINDING SYSTEM

A coordinated wayfinding system can facilitate pedestrian travel by clearly showing routes and distances to destinations. What's more, a coordinated wayfinding system facilitates travel between all modes of transportation and supports an interconnected, multimodal transportation system by clearly depicting the locations of transit stops and routes, bicycle routes, bike stations, and regional transportation centers. Legible wayfinding is particularly critical in areas with high pedestrian volumes and where multiple modes of transportation converge.

Currently, Seattle has a wide variety of disjointed wayfinding elements and systems in the right-of-way, including red pedestrian map kiosks and directional signage, blue map kiosks, bicycle wayfinding signage, and maps provided by transit providers. A coordinated, inter-modal wayfinding system can create efficiencies between various wayfinding efforts while increasing the legibility of the entire transportation system and facilitating movement between modes. An informed traveler may choose to reach his or her destination by walking.

Considerations

- Developing a coordinated, inter-modal wayfinding system will require a cooperative effort between various SDOT programs and local and regional transit providers
- Wayfinding efforts should include assumptions for ongoing maintenance and ownership, and wayfinding maps should be updated on a regular basis as transportation networks evolve over time
- As Seattle's bicycle network is built out, routes can be clearly shown on wayfinding maps to help increase system legibility, particularly for new users
- Real-time transit information can be incorporated into wayfinding elements

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Coordinated wayfinding systems can help encourage pedestrian travel and facilitate travel between all modes of transportation for both visitors and residents.

- Consider new frontiers in wayfinding, including digital kiosks and integration with mobile applications.

Actions associated with this strategy

5.2.1 Collaborate with external partners to develop a coordinated wayfinding plan to facilitate pedestrian travel and modal integration

STRATEGY 5.3
CREATE INVITING PEDESTRIAN SPACES

Infrastructure is not the only element needed to make a pedestrian-friendly city; the quality of the public realm also matters. From pop-up spaces and parklets to more significant design and programming interventions like woonerfs and pedestrianized streets, these humanizing treatments make Seattle not just a city where everyone can walk, but a city where everyone wants to walk. Urban design amenities and public space activation contribute to an interesting, active streetscape and a community's sense of place.

Seattle has been a leader in activating and enhancing the public realm, including permitting new parklets and "streateries," building festival streets, and creating new public spaces in the right-of-way through the Adaptive Streets program. SDOT will continue to implement these types of programs and projects with the goal of creating an inviting, engaging public realm for all.

Considerations

- SDOT's Public Space Management Program permits parklets, "streateries," and play streets
- The SDOT Adaptive Streets Program re-purposes underused roadway space for safety, mobility, and public space improvements using low-cost, temporary solutions
- SDOT's Complete Streets program helps identify opportunities for urban design enhancements that can be provided as part of capital projects, including landscaping amenities, upgraded materials, public art opportunities, and re-purposing underutilized portions of the right-of-way
- Adaptive Streets improvements can be a tool for providing public space in areas with increasing densities

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SDOT's Adaptive Streets program has created inviting pedestrian spaces from underutilized rights-of-way (First Hill).

Actions associated with this strategy

5.3.1 Provide pedestrian amenities, including benches and resting opportunities, in the right-of-way

5.3.2 Consider opportunities to create pedestrian-only streets, whether temporarily, at key times, or on a permanent basis

ACTION 5.3.2
CONSIDER OPPORTUNITIES TO CREATE PEDESTRIAN-ONLY STREETS

Cities around the world have increasingly been experimenting with pedestrianizing streets (often within downtowns or historic districts) by banning private cars temporarily, at key times, or on a permanent basis. These initiatives promote less automobile congestion, contribute to decreased air pollution, help provide adequate space for people in areas with high pedestrian volumes, and foster an inviting public realm.

Car-free streets eliminate the potential for collisions between vehicles and pedestrians, and they dramatically increase pedestrian comfort. Pedestrian-only zones, even for parts of the day or weekend, create opportunities for streetscape enhancements, amenities, and pedestrian-focused commerce.

Led by SDOT, the City is currently piloting pedestrian-only streets in the Capitol Hill neighborhood.

In August 2015, E Pike St. was open to pedestrians only between Broadway and 12th Ave to pilot a nighttime pedestrian street concept.

STRATEGY 5.4
PROMOTE AND MAINTAIN GREEN INFRASTRUCTURE IN THE RIGHT-OF-WAY

Green infrastructure in the right-of-way offers myriad benefits for the pedestrian realm. Most often located between the pedestrian clear zone and the curb within the furnishing zone of the sidewalk, green infrastructure and landscaping can take the form of groundcovers, shrubs, and street trees, and stormwater planters.

Street trees and landscaping enhance the pedestrian realm by buffering pedestrians on the sidewalk from traffic in the roadway. Street trees can help slow traffic by narrowing the optical width of the roadway, and they can help to humanize the scale of the street. The presence of street trees has been shown to be positively correlated with the values of adjacent properties, as well as with positive public health outcomes. Street trees also provide a broad range of environmental benefits, including helping to manage stormwater and remove pollutants. Street trees and landscaping in the right-of-way can also serve as part of the City's public stormwater management system.

Considerations

- Providing a healthy, expansive urban forest aligns with the City's climate adaptation/mitigation goals
- Tree management reduces asset deterioration, giving street trees the greatest chance to thrive and minimizing the risk of injury
- As new green infrastructure elements are added to the right-of-way, management needs must be considered. Unmaintained vegetation can encroach onto sidewalks, damage sidewalks, and create an unsightly, unkempt appearance.
- In accordance with SMC 15.43.040, maintenance of street trees is the responsibility of the adjacent property owner(s). The exceptions to this policy are trees specifically designated for maintenance by SDOT Urban Forestry.
- Improving the maintenance of landscaping in the right-of-way may require more enforcement for privately-maintained areas
- Improved data gathering, including resident-reported data through systems such as iTree, can enhance asset tracking for right-of-way landscaping, particularly street trees
- Interdepartmental partnerships between SDOT and Seattle Public Utilities can help facilitate the provision of stormwater management facilities within the right-of-way

	OBJECTIVE 1: Complete and maintain the pedestrian system identified in the PMP
●	**OBJECTIVE 2:** Improve walkability and accessibility on all streets
●	**OBJECTIVE 3:** Increase pedestrian safety
●	**OBJECTIVE 4:** Plan, design, and build Complete Streets to move people and goods
●	**OBJECTIVE 5:** Create vibrant public spaces that encourage pedestrian use
	OBJECTIVE 6: Raise awareness of the important role of pedestrian movement for transportation, recreation, and in promoting health and preventing disease

Actions associated with this strategy

5.4.1 Update the Right-of-Way Improvements Manual minimum standards for landscape zones within the sidewalk and landscape maintenance requirements

5.4.2 Explore options to establish a capital budget for SDOT Urban Forestry to provide new street trees and other green infrastructure within the right-of-way

5.4.3 Increase funding for landscape and street tree management and maintenance

5.4.4 Continue to collaborate with Seattle Public Utilities to maximize opportunities to provide green stormwater infrastructure within the right-of-way

STRATEGY 5.5
PROVIDE PEDESTRIAN-SCALE LIGHTING

Pedestrian-scaled lighting encourages year-round pedestrian travel by increasing perceived personal security, illuminating potential hazards, and enhancing the visibility of pedestrians to vehicles. Each of these elements are foundational to creating a safe and comfortable public realm, particularly in Seattle where the winter days are overcast and relatively short. While Seattle's roadways are typically well lit, street trees and other overhead obstacles can obstruct street lights and leave sidewalks under-illuminated. Pedestrian-scale lighting should supplement street lights in high-demand pedestrian locations. The Right-of-Way Improvements Manual (ROWIM) currently encourages pedestrian-scaled lighting at pedestrian crossings, in transit zones and near pedestrian-supportive land uses.

Considerations

- The 2012 Pedestrian Lighting Citywide Plan guided new pedestrian lighting provided with Bridging the Gap funding. This funding source has since expired.
- Re-establishing SDOT's Pedestrian Lighting Program could help provide effective illumination levels for the pedestrian realm
- Maintenance cost assumptions for new pedestrian lighting fixtures may be based on new, longer-life LED technologies

Actions associated with this strategy

5.5.1 Update the Pedestrian Lighting Citywide Plan

5.5.2 Identify funding source(s) to provide pedestrian lighting as part of SDOT capital projects

5.5.3 Update the ROWIM to specify desired lighting levels and/or spacing standards where pedestrian-scale lighting is desired to help ensure that private frontage improvements include pedestrian-scale lighting

	OBJECTIVE 1: Complete and maintain the pedestrian system identified in the PMP
●	**OBJECTIVE 2:** Improve walkability and accessibility on all streets
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●	**OBJECTIVE 4:** Plan, design, and build Complete Streets to move people and goods
●	**OBJECTIVE 5:** Create vibrant public spaces that encourage pedestrian use
	OBJECTIVE 6: Raise awareness of the important role of pedestrian movement for transportation, recreation, and in promoting health and preventing disease

Appropriate levels of pedestrian lighting create an inviting, safe-feeling public realm, which is particularly important during Seattle's dark winter months.